



## COVID-19

# Investigating the Impact of COVID-19 during Pregnancy

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Although the overall risks are low:

- People who are pregnant or recently pregnant are at an increased risk for severe illness from COVID-19 when compared to people who are not pregnant.
- People who have COVID-19 during pregnancy are also at increased risk for preterm birth (delivering the baby earlier than 37 weeks) and stillbirth and might be at increased risk for other pregnancy complications.

CDC is supporting multiple efforts to increase our understanding of the impact of COVID-19 on pregnant women and infants. Data collected as part of these efforts can help direct public health action and inform clinical guidance for the care of affected pregnant women and their infants.

## Pregnancy and Neonatal Surveillance

Health departments report individuals who have been diagnosed with COVID-19 (cases) to CDC, including cases among pregnant women. Health departments can also submit their data on COVID-19 cases among pregnant women and infants up to 6 months of age to CDC through an existing surveillance activity—[Surveillance for Emerging Threats to Mothers and Babies Network \(SET-NET\)](#). Data collected include information about the following:

- Timing of SARS-CoV-2 infection (the virus that causes COVID-19) during pregnancy;
- Severity of COVID-19 disease;
- Outcome of the pregnancy; and
- Whether the newborn was also diagnosed with COVID-19.

See the most recent data on COVID-19 during pregnancy

## Maternal and Infant Health Surveillance: COVID-19 Supplement

CDC's Division of Reproductive Health is collaborating with the [Council of State and Territorial Epidemiologists](#) to provide support and resources to state, tribal, local, and territorial public health agencies to add COVID-19 questionnaire supplements to existing maternal and infant health surveillance systems. One example is the [Pregnancy Risk Assessment Monitoring System \(PRAMS\)](#), which routinely collects population-based data on maternal behaviors and experiences before, during, and shortly after pregnancy. The questionnaire supplements collect data on experiences related to COVID-19, including vaccination, of pregnant and postpartum women and infants. Findings will inform federal, state, local, tribal, and territorial public health response activities.

## Impact of SARS-CoV-2 Infection During Pregnancy on Obstetric and Neonatal Outcomes – Icahn School of Medicine at Mt. Sinai

The [Icahn School of Medicine at Mt. Sinai](#) is conducting a study to estimate the percentage of pregnant women who have been infected with SARS-CoV-2, the virus that causes COVID-19. Using data from electronic health records, the study also examines associations between recent SARS-CoV-2 infection and adverse pregnancy outcomes. Researchers will determine the extent to which SARS-CoV-2 infection impacts pregnant women in underserved communities in New York City and will explore the role of maternal stress during the pandemic.

## Perinatal COVID-19 in the U.S.: Surveillance and Epidemiology – Children's Hospital of Philadelphia (CHOP) and the University of Florida, College of Medicine – Jacksonville

This national registry at [Children's Hospital of Philadelphia \(CHOP\)](#) and the [University of Florida, College of Medicine – Jacksonville](#) is measuring the current level of SARS-CoV-2 infection during pregnancy to inform clinical care practices and provide data for future studies on prevention, diagnosis, and treatment of COVID-19. The study is using a national registry to capture information in real time about pregnant women with COVID-19 and their newborn infants. The information collected will contribute to a greater understanding of the potential modes of transmission, risk factors, and rates of transmission of SARS-CoV-2 infection during pregnancy and the impact on newborns.

## Pregnancy and Household Transmission COVID-19 Study – University of Washington

The [University of Washington](#) is conducting a study in South King County, Washington on SARS-CoV-2 infections, household transmission, and antibody response among pregnant women and their household members. The study is investigating adverse health outcomes and other factors associated with symptomatic and asymptomatic SARS-CoV-2 infection among 1,000 pregnant women screened for SARS-CoV-2 specific IgG antibodies. It is also estimating potential household transmission and duration of antibodies over time (6 months) among pregnant women and their household contacts.

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## Epidemiology of SARS-CoV-2 in Pregnancy and Infancy (ESPI) Network

The ESPI Electronic Cohort study is collecting information from the medical records of women who received prenatal care at three participating sites and reached the end of their pregnancies between March 2020 and February 2021. Data collection will include information about the following:

- Demographic and maternal characteristics;
- Medical conditions;
- Prenatal care;
- Pregnancy complications, including ambulatory care visits and hospitalizations for acute illness;
- Postpartum care;
- Laboratory test results for SARS-CoV-2 and influenza;
- Pregnancy outcomes; and
- Selected infant outcomes through 6 months of age.

This study aims to understand the characteristics of SARS-CoV-2 infection during pregnancy and the 6 months after the end of pregnancy, including among infants up to 6 months of age. It also aims to identify risk factors for severe COVID-19 disease, describe the use of investigational and off-label therapeutics, and evaluate COVID-19's effects on pregnancy and infant outcomes.

The ESPI Community Cohort study is a multisite collaboration designed to estimate the incidence of asymptomatic and symptomatic SARS-CoV-2 infection and understand the characteristics of SARS-CoV-2 infection in pregnant women. This includes the spectrum of disease, conditions, and risk factors for infection and developing severe illness. A secondary objective is to examine the effect of COVID-19 during pregnancy on pregnancy and newborn outcomes. The study enrolls pregnant women at less than 28 weeks of pregnancy and follows them through the end of their pregnancies with weekly surveillance for SARS-CoV-2 infection and symptoms of COVID-19-like illness. Information is also collected 2-4 weeks after the end of their pregnancies, on end-of-pregnancy, infant, and postpartum outcomes.

## Identification of History of SARS-CoV-2 Infection among Pregnancy-Associated Deaths

[Maternal mortality review committees \(MMRCs\)](#) are multidisciplinary committees at the state and local level that perform comprehensive reviews of pregnancy-associated deaths (deaths during or within 1 year of the end of pregnancy). To improve identification of pregnancy-associated deaths with a history of SARS-CoV-2 infection, CDC collaborated with 9 jurisdictional health departments to develop [best practices](#) for MMRCs. Suggested methods for systematic identification include the following:

- Linkages of death records with or manually searching jurisdictional COVID-19 case surveillance databases for pregnancy-associated deaths;
- Searching cause of death fields on the death record for key terms related to SARS-CoV-2 infection or COVID-19 illness; and
- Linkages of death records with or manually searching hospital discharge data or other administrative datasets for pregnancy-associated deaths, to ascertain records where there were key terms related to SARS-CoV-2 infection or COVID-19 illness.

CDC is continuing to work with MMRCs to develop best practices for data abstraction and reviews of pregnancy-associated deaths with a history of SARS-CoV-2 infection.

## Additional Resources

[Pregnant and Recently Pregnant People](#)

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[Breastfeeding and Caring for Newborns](#)

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[Information about COVID-19 Vaccines for People who Are Pregnant or Breastfeeding](#)

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[Evaluation and Management Considerations for Neonates At Risk for COVID-19](#)

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[Considerations for Inpatient Obstetric Healthcare Settings](#)

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[Care for Breastfeeding People](#)

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[COVID-19 Toolkit for Pregnant People and New Parents](#)

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